

The Impact of Social Pension Insurance on the Allocation of Risky Financial Assets of Families

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ABSTRACT. With the growth of household assets and the development of China's financial market, household financial transactions are increasingly frequent, but at the same time, the single household financial structure has gradually emerged. In order to solve this problem, this paper uses Probit and Tobit model to investigate the impact of social pension insurance on risky financial asset decision-making based on the data of China Household Financial Survey and Research Center in 2017. The results show that the ownership of social pension insurance can significantly increase the willingness of households to participate in risky financial markets and the proportion of risky assets held by households in financial assets, and the effect is different between urban and rural areas. The impact of social pension insurance on rural areas is not prominent. Based on the research results, this paper puts forward the following recommendations: strengthen social endowment insurance protection continually through the pension market.

KEYWORDS: Social pension insurance, Family finance, Asset allocation

1. Introduction

With the development of social economy, great changes in the financial market have changed people's attitude to the choice of asset portfolio. The total amount and types of financial assets held by people have increased, which has shifted researchers' interest from studying the share of consumption and savings to the allocation of household financial assets. However, China's household financial survey data shows that there are problems such as low participation in risky financial markets, single structure of financial assets, and large differences between urban and rural risky financial assets, which is quite different from the traditional portfolio theory. China is in the primary stage of socialist construction, facing the problems of imperfect financial market and unsound social security system. The allocation of household financial assets is affected by the reduction of family labor force, the instability of expected income, and the decline of real income, leading to a disincentive to invest in risky investments. The social pension insurance system can guarantee the basic life of family members after retirement and stimulate families to participate in the risk financial market. No matter from which point of view, the allocation of risky financial assets can not be discussed without the analysis of the Social Endowment Insurance System. With the increasing income of residents and the development of financial industry, encouraging families to make rational and active investment in financial assets plays an important role in improving family income structure and optimizing family assets combination.

To answer these questions, this paper uses the data of Chinese household financial survey published in 2017 to analyze the impact of social pension insurance and other factors on Chinese households' participation in risky financial markets and risky financial asset allocation. The structure of this paper is as follows: the second part is literature review; the third part is model data and variables, the fourth part is empirical analysis and the fifth part is conclusions and policy recommendations.

2. Literature Review

In order to better study the family financial investment behavior, domestic and foreign scholars from the family members' age, property, health status, labor income risk and education level, etc. Cardak argues that Labor income risks and health risks play a major role in household financial asset investment. [1] In terms of labor income risk, Wu Hong and Xu bin argue that in economic theory, the present value of the future labor force is considered as human capital and its

value is in constant change, according to the change of labor income risk, its Influence on financial assets is shown as wealth effect and substitution effect.[2] The wealth effect here refers to the fact that when the income of the labor force reaches a certain scale, it will inevitably lead to an increase in the possibility for families to invest in risky financial assets, and when the risk of the Labor income is small, human capital is close to bond assets or risk-free assets, and its wealth effect is obvious. Therefore, human capital can increase the proportion of risky financial assets held by households. When the risk of household labor force is high, human capital can partly replace the risk assets. The study of Pratt shows that the impact of labor income risk on household financial asset investment depends on its relationship with the risk of excess financial return.[3] When the risk of labor income is positively related to the risk of excess financial income, the risk of labor income will reduce the household's holding of risky financial assets. The empirical research of Jorgensen and Cardak supports the negative correlation between the income risk of labor and the investment of risky financial assets. [4]Cuiso found that increased income risk and borrowing restrictions reduced household demand for risky financial assets. [5]But research by Arrondel and Masson suggests otherwise. In terms of health risk, most studies show that health status has a significant impact on household investment in risky financial assets.[6]

3. Model and Data

3.1 Research Model

3.1.1 The Impact of Social Pension Insurance on Family Participation in Risky Financial Market

Because the explained variable is a binary variable, the Probit model is used to investigate whether households hold risky financial assets.

The MODEL is as follows:

$$Y = \alpha X + \beta Z_i + \mu_i$$

$$Y = \begin{cases} 1 \\ 0 \end{cases}$$

3.1.2 The Impact of Social Pension Insurance on Household Financial Asset Allocation

When we study the influence of risk financial assets on the proportion of household financial assets, the Tobit model is adopted because the proportion of risk financial assets is truncated.

The MODEL is as follows:

$$Y^* = \alpha X + \beta Z_i + \mu_i$$

$$Y = \max(0, Y^*)$$

3.2 Sources of Data

This paper uses CHFS data in 2017, including 40011 households, covering 29 provinces, 355 counties, 1428 communities. The survey includes information on Demographics, employment, assets and liabilities, social security and insurance, expenditure and other income, and is highly representative. At the same time, the survey from the sample extraction, questionnaire design, visitor training to the implementation of strict standards, to ensure the scientific and reliable data.

4. Empirical Analysis

Table 1 Social Pension Insurance and Family Risky Financial Asset Selection

	(1)	(2)	(3)	(4)
	Join	PROTION1	PROTION2	PROTION3
Main				
Insurance	0.033 * * *	0.147 * * *	- 0.0335	0.0358

	0.000	0.000	0.685	0.767
Age	0.0047 **	0.0219 ***	0.0233 ***	- 0.0207 **
	0.000	0.000	0.001	0.026
Age2	- 0.000039 ***	- 0.000163 **	- 0.000287 **	.000173 **
	0.000	0.000	0.000	0.042
Risk	- 0.0091 **	- 0.0828 ***	0.0149	0.000545
	0.015	0.000	0.671	0.991
Education	0.0133 **	0.0532 ***	0.0129 ***	0.0119 *
	0.000	0.000	0.006	0.071
Marital	- 0.0155 ***	- 0.0604 ***	- 0.00449	- 0.0326
	0.001	0.008	0.922	0.617
UH, rural	- 0.119 ***	- 0.521 ***	- 0.272 ***	- 0.184
	0.000	0.000	0.005	0.191
Health	- 0.0197 ***	- 0.0801 ***	- 0.0513	0.0165
	0.000	0.000	0.106	0.711
LN	0.0318 ***	0.133 ***	- 0.0359 **	0.0343
	0.000	0.000	0.026	0.143
LN	0.0327 **	0.159 ***	- 0.0151	- 0.0196
	0.000	0.000	0.217	0.260
Dradio	0.000331	- 0.000413	0.0275	- 0.0168
	0.342	0.924	0.129	0.619
_cons	- 8.029 ***	- 5.626 ***	0.268	- 0.229
	0.000	0.000	0.303	0.534
Sigma				
_cons		0.707 **	0.779 ***	0.981 ***
		0.000	0.000	0.000
N	38462	36159	3803	3803

Note: Standard Errors in parentheses; * P 0.1, * p 0.05, ** P 0.01, same as below.

Table 1 shows the regression results of the Probit and Tobit models. The effect of social pension insurance on family participation in risky financial asset decision-making is estimated in column (1) of Table. From this we can see that the family-owned social pension insurance has a significant positive impact on the family-owned risky financial assets, and the family participates in the social pension insurance while other variables remain unchanged, their participation in risky financial markets would increase by 3.3%. This may be because social pension insurance reduces households' uncertainty about future earnings and creates a stable environment for households to invest in financial assets, thus encouraging residents to invest in risky financial assets. As for the families who do not participate in social pension insurance, they are unwilling to bear the fluctuation of the return of risky financial assets because of risk aversion and uncertainty in the future, and are more willing to hold the less risky financial assets, the willingness to participate in risky financial assets investment is low.

In other explanatory variables, first, because the quadratic term of age is negative, the age of the head of household has an inverted u-shaped effect on the participation of risky financial asset markets, households are more likely to hold risky financial assets, which may be due to the fact that, as family members age, they usually invest first in property and then in risky financial assets. However, the quadratic marginal effect of age is very small, which shows that the image of age influencing family participation in risky financial market is very smooth. Second, the more educated the head of the household, the more likely the household is to participate in risky financial markets, which means that the more financial knowledge accumulated, the more likely it is to participate in risky financial markets, education and financial knowledge have significant positive effects on family participation in risky financial markets. Third, the risk preference of investors also significantly affects the probability of household participation in risky assets, the more risk-averse the household as a whole is, the more likely it is to hold risky financial assets. Fourth, married households are less likely than unmarried households to invest in risky financial assets, possibly as a result of greater demand for the family's future economic stability, unwilling to bear the possible loss of risky financial assets, prefer less risky financial assets to avoid the loss caused by investment mistakes. Fifthly, the proportion of rural households participating in risky financial markets is even less than that of urban households. On the one hand, due to the relatively closed information in rural areas and the narrow channels for acquiring financial knowledge, some rural residents do not understand risky financial markets, second, the proportion of rural households holding pension insurance is lower than that of urban households, or the amount of rural pension insurance is lower than that of urban households, which prevents rural residents from entering the risk financial market. Sixth, the number of people in poor physical health has a significant crowding-out effect on risky financial assets. The more people in poor physical health, the less likely they are to participate in risky financial markets, it may be that the more members of the household who are in poor health, the more medical expenses

and the less disposable income, the less willing the household will be to participate in risky financial markets. Finally, both total household income and total household assets have significant positive effects on participation in risky financial markets, which supports the wealth effect that the higher the total household assets, the more likely it is to hold risky financial assets, however, the effect of household debt on the probability of holding risky assets is not significant.

Next we discuss the factors that influence the proportion of household risky financial assets to total household financial assets. Regression (2) shows that family-owned pension insurance significantly increases the proportion of risky financial assets. The proportion of financial assets held by households with social pension insurance is 14.7% higher than that of households without such insurance. Similar to the participation of family pension insurance in the risk financial market discussed above, families with social pension insurance are not only more likely to participate in the risk financial market, and the proportion of risky financial assets held is higher than the proportion of households without pension insurance. The participation of the pension insurance reduces the risk of the future family labor income to a great extent, and makes up for the loss of income caused by the retirement of the labor force, the less risk households face in the future, the more likely they are to put idle money into risky financial assets. Regression (3) and regression (4) show the effect of pension insurance on the proportion of stock assets and fund assets. Different from previous studies, this paper finds that social pension insurance does not have a significant impact on the allocation of stock assets and fund assets.

5. Conclusions

Using the data of Chinese household financial survey in 2017, this paper discusses the impact of social pension insurance on the risky financial assets investment behavior of Chinese households, and controls the demographic characteristics, household economic level and geographical variables. In the empirical method, this paper uses Probit model to study the impact of social pension insurance on whether households participate in risky financial assets, and Tobit model to study the depth of household participation. The empirical results show that the ownership of social pension insurance has a significant positive impact on the family holding risky financial assets and increasing the investment proportion of risky financial assets. And through the comparison between urban and rural families, it is found that the investment preference of rural families does not change significantly because of holding social pension insurance, the reason may be that the current level and coverage of social pension insurance in rural areas of China are quite different from those in urban areas, to some extent, it leads to the unbalanced decision-making of risky financial assets investment between urban and rural households. In addition, by making up for the risk caused by the lack of labor force, the social pension insurance can increase the expected future income of the family and increase the willingness of the family to participate in the risky financial market.

China is in the primary stage of socialist development, and the development of social pension insurance system is a good policy to improve people's livelihood and comply with public opinion. Therefore, while improving the financial investment market, the government should actively promote the reform of the social pension insurance system, establish a financial market subsidy mechanism, and expand the investment and operation channels of the pension fund under the guarantee condition, by investing the pension funds in market transactions such as foreign savings, commercial bills and bank bills, we can maintain and increase the value of social pension insurance funds, reduce the pressure on pension payments and, to a certain extent, raise the level of social security, to enhance the attractiveness of social pension insurance, so as to promote the rate of insurance, guide families to participate in risk financial markets.

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